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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,643	07/15/2003	Philippe Schottland	134400-1	8576

43248 7590 03/29/2005

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EXAMINER
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RONESI, VICKEY M

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/619,643

Applicant(s)

SCHOTTLAND ET AL.

Examiner

Vickey Ronesi

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/10/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-37 are currently pending.
2. It is noted that the amendment is not in compliance. In particular, the status identifier for claim 25 is incorrect. It should read as "currently amended."
3. The outstanding objections to the specification and claims are withdrawn in light of applicants' amendment filed 1/3/2005.
4. Applicant's arguments with respect to all outstanding prior art rejections over claims 1-37 have been considered but are moot in view of the new grounds of rejection.
5. New grounds of rejection over all claims have been set forth below. For this reason, *a second non-final Office Action is as follows.*
6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

### ***Claim Rejections - 35 USC § 112***

7. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36 recites the limitation "the mold" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

8. Claims 32-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Gutzwiller et al (US 2,848,462).

Gutzwiller et al discloses a composition comprising dyestuffs in red shades (col. 1, line 25) and synthetic resin lacquers (col.2, lines 49-50), wherein the dyestuff is a 1,8-dialkylaminoanthraquinone (col. 3, lines 8-24). Note examples 6 and 8 on cols. 5 and 6. A method of producing a coating or film (i.e., an article) wherein 0.03 part of anthraquinone dyestuff is dissolved in 10 parts of lacquer—i.e., liquid dying process (col. 8, lines 3-8).

Although Gutzwiller et al does not disclose the presently claimed hue angle values of the anthraquinone dye, it is the examiner's position that since Gutzwiller et al discloses the presently claimed anthraquinone dye, it is inherent that Gutzwiller et al's dye give the presently claimed hue angle since such a property is evidently dependent upon the nature of the material used. Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

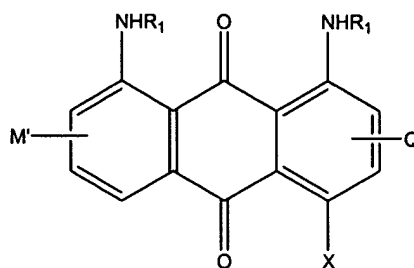
In light of the above, it is clear that Gutzwiller et al anticipates the presently cited claims.

***Claim Rejections – 35 USC § 102/103***

9. Claims 1-7, 10-15, 17-23, and 37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Claussen et al (US 4,863,634).

Claussen et al discloses anthraquinone dyes used to dye plastics such as polycarbonate (others listed on col. 3, lines 41-44), where the anthraquinone dye is represented by Formula (IIb) on col. 2, lines 1-11 as follows:

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wherein  $R_1$ ,  $M'$ ,  $Q$ , and  $X$  are representative of structures in present claims 1, 24, 32, and 37 (col. 1, line 18 to col. 2, line 19). Note that when  $R_1$  is a cyclohexyl group and  $M'$ ,  $Q$  and  $X$  are hydrogen, the chemical formula arrived at is 1,8-bis(cyclohexylamino) anthraquinone. Moreover, note that when  $R_1$  is an alkyl group and  $M'$ ,  $Q$ , and  $X$  are hydrogen, the chemical formula arrived at is 1,8-bis(alkylamino) anthraquinone. It is the examiner's position that the generic chemical formula given in Claussen et al is sufficiently limited such that one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula (MPEP § 2131.02). Moreover, it is settled in case law that the compound is therefore anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

With respect to purity of the dye, note col. 7, lines 29-34 where Claussen et al teaches that the anthraquinone compounds are obtained in inadequate purity and that additional measures such as column chromatography or liquid-liquid partition (i.e., such methods of purification as disclosed in applicant's own examples, e.g., chromatography) are necessary. Throughout the examples, purification techniques are performed on the dyes. It is therefore the examiner's position that the purity of Claussen et al is therefore at least 90 wt % given the steps set forth in Claussen et al to purify the dyes.

Although Claussen et al does not disclose the properties of the anthraquinone dye alone and the composition with the anthraquinone dye, it is the examiner's position that since Claussen

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et al discloses the presently claimed anthraquinone dye combined with a polymeric resin such as polycarbonate, it is inherent that Claussen et al's dye and composition give the presently claimed properties since such a property is evidently dependent upon the nature of the material used.

Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

To the extent that Claussen et al does not explicitly disclose the wt % of purity of its anthraquinones, it is considered that it would have been obvious to one of ordinary skill in the art to either obtain a purity of at least 90 wt % with Claussen et al's disclosed technique or to utilize another known purification technique which would provide the presently claimed purity given Claussen et al's explicit intent to purify the dyes.

#### ***Claim Rejections - 35 USC § 103***

10. Claims 1-6, 10-13, 15, 17-20, and 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Gutzwiller et al (US 2,848,462).

Gutzwiller et al discloses a composition comprising dyestuffs in red shades (col. 1, line 25) and synthetic resin lacquers (col.2, lines 49-50), wherein the dyestuff is a 1,8-dialkylaminoanthraquinone (col. 3, lines 8-24). Note examples 6 and 8 on cols. 5 and 6.

Gutzwiller et al does not explicitly disclose the % purity of the obtained anthraquinone, however, note col. 5, lines 27-30 where the anthraquinone is filtered and purified by recrystallization from an organic solvent.

Given that Gutzwiller et al discloses means of purifying and therefore the intention of obtaining a pure anthraquinone, it would have been obvious to one of ordinary skill in the art to

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either obtain a purity of at least 90 wt % with Gutzwiller et al's disclosed technique or to utilize another known purification technique which would provide the presently claimed purity.

Since it is obvious to utilize Gutzwiller et al's dye having a purity of at least 90 wt %, it is therefore intrinsic that Gutzwiller et al's dye give the presently claimed dye properties since a material and its properties are inseparable, thereby arriving at the presently cited claims.

11. Claims 8, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Claussen et al (US 4,863,634) in view of Genta (US 3,923,454).

The discussion with respect to Claussen et al in paragraph 9 above is incorporated here by reference.

Claussen et al does not disclose the amount of dye to be used to color the polymeric resin.

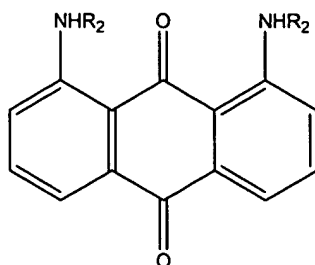
Genta discloses an anthraquinone dye that is used to color polymeric resin such as polycarbonate wherein the colorant is used in an amount less 15 %, most preferably from 0.0001% to about 1 % (col. 6, lines 42-46) to form a rigid plastic substrate which is shaped into an article (col. 5, line 41 to col. 6, line 11).

Given a composition comprising anthraquinone dye and a polymeric resin as disclosed by Claussen et al, it would have been obvious to one of ordinary skill in the art to utilize the amounts of dye as taught by Genta and thereby arrive at the presently cited claims.

12. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al (US 3,960,751) or Smith et al (US 5,882,358).

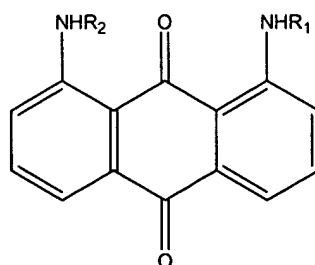
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Moriyama et al discloses a 1,8-dialkylaminoanthraquinone dye utilized in nematic liquid crystal compositions. The dye has the following structure (col. 4, line 55-64):



wherein  $R_2$  is an alkyl radical having 4-20 carbon atoms (col. 4, line 66).

Smith et al discloses transmission fluids comprising an 1,8-diaminoanthraquinone dye having the following structure



wherein  $R_1$  and  $R_2$  are the same or different alkyl or cycloalkyl groups (col. 2, lines 20-33).

Moriyama et al does not disclose the wt % purity of the dyes, nonetheless, it teaches that the dyes are filtered and refined by recrystallizing (col. 7, lines 30-34), i.e., that they are purified.

Smith et al does not disclose the wt % purity of the dyes, nonetheless, it teaches that the dyes are filtered and washed to remove inorganic salts (col. 4, lines 23-27)), i.e., that they are purified.



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Given that both Moriyama et al and Smith disclose a means of purifying and therefore the intention of obtaining a pure anthraquinone, it would have been obvious to one of ordinary skill in the art to either obtain a purity of at least 90 wt % with Moriyama et al's or Smith et al's disclosed technique or to utilize another known purification technique which would provide the presently claimed purity.

13. Claims 1-7, 10-13, 15, 17-26, 103 Moriyama et al (US 3,960,751) in view of Blunck et al (US 4,689,171)

The discussion with respect to Moriyama et al in paragraph 12 above is incorporated here by reference.

Moriyama et al does not disclose the use of its dyes with a polymeric resin.

Blunck et al discloses anthraquinone dyes of utilized with nematic liquid crystalline materials (col. 8, lines 55-64) and teaches that its dyes are also particularly useful for coloring synthetic polymers such as polycarbonate by customary processes (col. 10, lines 50-54).

Given Blunck et al's teaching that its anthraquinone dyes are not only capable of being used in nematic liquid crystalline compositions but are also particularly useful for coloring synthetic polymers, it would have been obvious to one of ordinary skill in the art to utilize the dyes utilized in nematic liquid crystalline compositions disclosed by Moriyama et al in polymeric compositions and thereby arrive at the presently cited claims.

Although neither Moriyama et al nor Blunck et al discloses the presently claimed properties of the anthraquinone dye alone or the polymeric resin composition with the anthraquinone dye, it is the examiner's position that since the presently claimed composition is

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obvious over the prior art, it is intrinsic that the composition taught by the combined teachings of Moriyama et al and Blunck et al would give the presently claimed properties since such properties are evidently dependent upon the nature of the material used.

14. Claims 8, 9, 16, 28-30, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al in view of Blunck et al (US 4,689,171) and further in view of Genta (US 3,923,454).

The discussion with respect to Moriyama et al in view of Blunck et al in paragraph 13 is incorporated here by reference.

Neither Moriyama et al nor Blunck et al discloses the amount of dye to be used to color the polymeric article, an article *per se* formed by the dyes mixed in the polymeric resin, or a method of making the article.

Genta discloses an anthraquinone dye that is used to color polymeric resin such as polycarbonate wherein the colorant is used in an amount less 15 %, most preferably from 0.0001% to about 1 % (col. 6, lines 42-46) to form a rigid plastic substrate which is shaped into an article (col. 5, line 41 to col. 6, line 11) that is made by coloring the resin with the dye through pigmentation processes, i.e., the dye is mixed with the resin using sets of mixing rollers, mixing or milling apparatus (i.e., pelletized) and then shaped into the desired final article form (col. 6, lines 12-32).

Given a composition comprising anthraquinone dye and a polymeric resin as disclosed by the combined teachings of Moriyama et al and Blunck et al, it would have been obvious to one of

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ordinary skill in the art to utilize the amounts of dye and the method of making an article with the composition as taught by Genta and thereby arrive at the presently cited claims.

15. Claims 27 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al in view of Blunck et al (US 4,689,171) and further in view of Genta (US 3,923,454) and Adachi et al (US 5,747,632).

The discussion with respect to Moriyama et al, Blunck et al, and Genta in paragraph 14 above is incorporated here by reference.

Moriyama et al, Blunck et al, and Genta are silent with respect to the weight-average molecular weight of the polycarbonate resin.

Adachi et al teaches that low molecular weight polycarbonate has a relatively higher flowability in which both molding transcription and cycle times-shortening is suitable for the production of optical recording mediums (col. 2, lines 43-47). Adachi et al exemplifies polycarbonates with a range of viscosity average molecular weight of 13,000 to 20,000 (col. 12, lines 34-39).

Since Adachi et al teaches that relatively low molecular weight polycarbonate provides improved flowability properties, it would have been obvious to one of ordinary skill in the art to utilize a polycarbonate with a weight average molecular of less than 20,000 in the composition disclosed by the combined teachings of Moriyama et al and Blunck et al and thereby arrive at the presently cited claims.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Sundbury et al (US 4,457,855) discloses a 1,8-diaminoanthraquinone dye added to latex (i.e., polymeric resin).

- Krutak et al (US 4,999,418) discloses a composition comprising polyester and 1,8-diaminoanthraquinone dye. The 1,8-diaminoanthraquinone requires at least of the amino group's to have a reactive group such as an alkylhydroxyl group which reacts with the polyester and thereby does not read on the presently claimed R groups.

### ***Correspondence***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3/23/2005

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